

Application No. 10/673,658
Amendment "A" dated October 13, 2005
Preliminary Amendment

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-4. (Cancelled).

Claim 5. (New) A transmission apparatus comprising:
spreading means for spreading an inphase component and a quadrature component of a signal to be transmitted by using a short code and a long code; and

transmission means for transmitting the signal whose inphase component and quadrature component have been spread,

wherein the spreading means spreads the inphase component and the quadrature component of the signal to be transmitted by using a long code whose inphase component and quadrature component are different from each other.

Claim 6. (New) The transmission apparatus as claimed in claim 1, wherein the quadrature component of the long code is one obtained by shifting a phase of the inphase component of the long code.

Claim 7. (New) The transmission apparatus as claimed in claim 1, wherein the spreading means carries out a complex operation between the inphase component and the quadrature component of the signal, and the inphase component and the quadrature component of the long code.

Claim 8. (New) The transmission apparatus as claimed in claim 1, wherein the spreading means spreads the inphase component and the quadrature component of the signal by using a same short code for the inphase component and the quadrature component of the signal.

Claim 9. (New) A reception apparatus comprising:

Application No. 10/673,658
Amendment "A" dated October 13, 2005
Preliminary Amendment

reception means for receiving a spread signal; and
despreading means for despreading an inphase component and a quadrature component of the received signal by using a short code and a long code,
wherein the despreading means despreads the inphase component and the quadrature component of the received signal by using a long code whose inphase component and quadrature component are different from each other.

Claim 10. (New) The reception apparatus as claimed in claim 5, wherein the quadrature component of the long code is one obtained by shifting a phase of the inphase component of the long code.

Claim 11. (New) The reception apparatus as claimed in claim 5, wherein the despreading means carries out a complex operation between the inphase component and the quadrature component of the received signal, and the inphase component and the quadrature component of the long code.

Claim 12. (New) The reception apparatus as claimed in claim 5, wherein the despreading means despreads the inphase component and the quadrature component of the received signal by using a same short code for the inphase component and the quadrature component of the received signal.

Claim 13. (New) A transmission method comprising:
a spreading step of spreading an inphase component and a quadrature component of a signal to be transmitted by using a short code and a long code; and
a transmission step of transmitting the signal whose inphase component and quadrature component have been spread,
wherein the spreading step spreads the inphase component and the quadrature component of the signal to be transmitted by using a long code whose inphase component and quadrature component are different from each other.

Claim 14. (New) A reception method comprising:

Application No. 10/673,658
Amendment "A" dated October 13, 2005
Preliminary Amendment

a reception step of receiving a spread signal; and
a despreading step of despreading an inphase component and a quadrature component of the received signal by using a short code and a long code,
wherein the despreading step despreads the inphase component and the quadrature component of the received signal by using a long code whose inphase component and quadrature component are different from each other.

Claim 15. (New) A communication system comprising a transmission apparatus and a reception apparatus, wherein

the transmission apparatus comprises:

spreading means for spreading an inphase component and a quadrature component of a signal to be transmitted by using a short code and a long code; and

transmission means for transmitting the signal whose inphase component and quadrature component have been spread, and

the spreading means spreads the inphase component and the quadrature component of the signal to be transmitted by using a long code whose inphase component and quadrature component are different from each other, and

the reception apparatus comprises:

reception means for receiving the spread signal; and

despreading means for despreading an inphase component and a quadrature component of the received signal by using a short code and a long code, and

the despreading means despreads the inphase component and the quadrature component of the received signal by using a long code whose inphase component and quadrature component are different from each other.